

Amputations: A continuing workplace hazard!

An exercise in the use of OSH data

Types of OSH data

- Summary data
- Case and demographic data

OSH Summary data is generally available in December of the year following the survey

- Consists of incidence rates and number of cases by detailed industry for TRC, LWDC, DAFWC, DRWC, WOLWC.
- Employers can use summary data to compare their establishment's performance to national averages.
- Trends in industry rates

Case and Demographic data are generally available in March following the release of summary data

- C & D data be used by employers & researchers for a more detailed comparison than is possible with the summary data.

Case and Demographic data

- Number of injuries and illnesses by Occupation & Occupational Summary Group
- Injury/Illness incidence rates & counts by nature, event, source, or part of body
- Injury/Illness data by age and gender

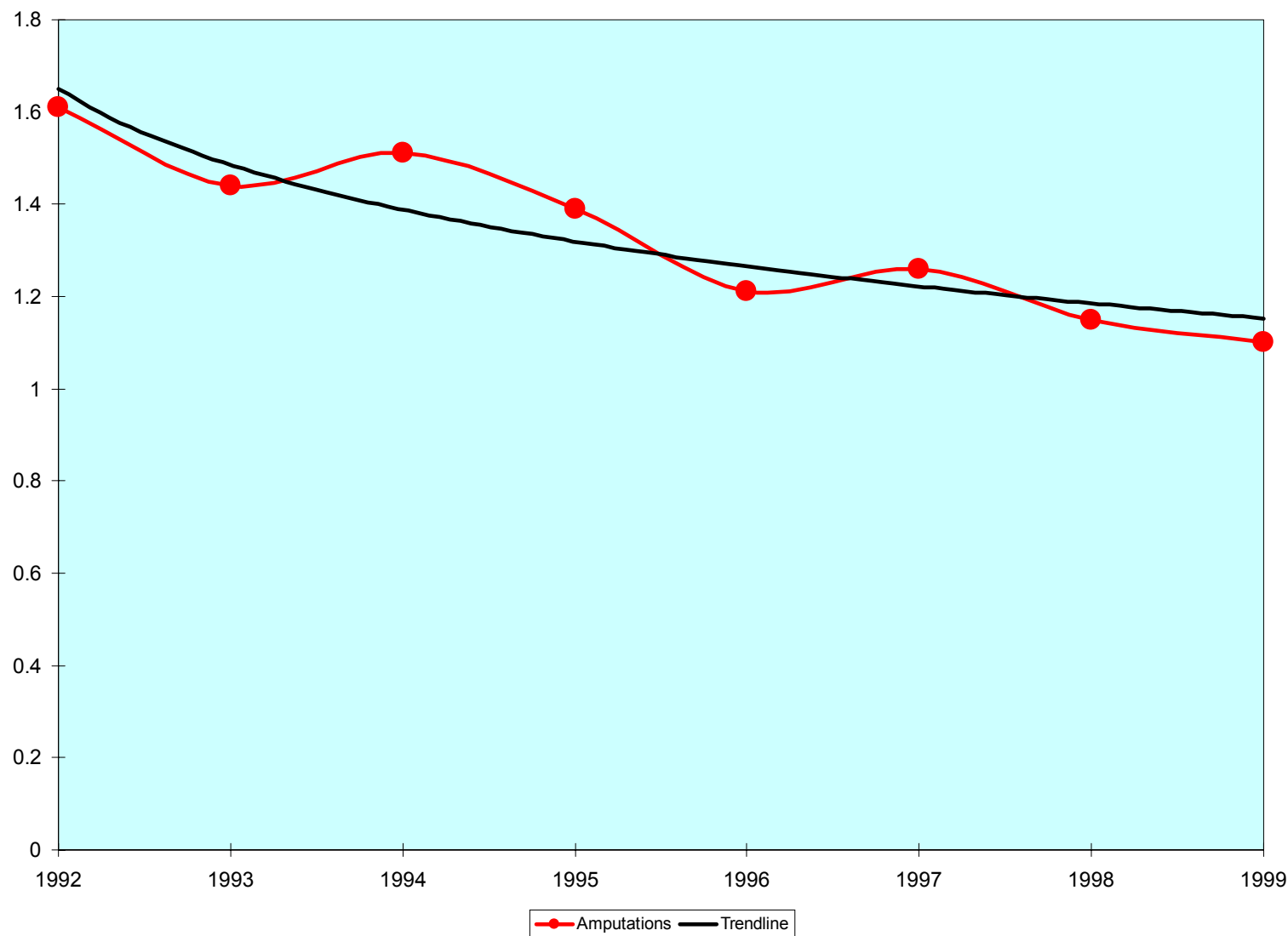
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Incidence rates of nonfatal workplace amputations by major industry division, private industry, 1992-99

	1992	1993	1994	1995	1996	1997	1998	1999
Private Industry.....	1.6 (2)	1.4 (2)	1.5 (2)	1.4 (2)	1.2 (2)	1.3 (2)	1.2 (2)	1.1 (2)
Agriculture.....	6.5 (6)	2.6 (9)	3.5 (10)	2.2 (13)	2.1 (17)	2.6 (15)	2.1 (17)	1.8 (16)
Mining.....	2.7 (5)	3.0 (5)	3.2 (7)	2.1 (10)	1.6 (9)	4.0 (12)	1.9 (9)	1.6 (9)
Construction.....	2.7 (5)	2.7 (4)	2.3 (7)	2.7 (7)	2.5 (8)	2.3 (9)	1.7 (10)	2.3 (8)
Manufacturing.....	3.4 (2)	3.5 (2)	3.7 (2)	3.3 (2)	3.0 (2)	3.0 (3)	3.1 (3)	2.9 (3)
Transportation & public utilities..	1.0 (8)	0.8 (8)	1.0 (9)	1.1 (10)	0.6 (13)	0.9 (11)	0.8 (11)	0.9 (10)
Wholesale Trade	1.6 (8)	1.6 (7)	1.8 (8)	1.6 (9)	1.5 (10)	1.3 (12)	0.9 (13)	0.8 (14)
Retail Trade	0.9 (7)	0.7 (7)	0.8 (8)	0.6 (10)	0.7 (10)	0.9 (10)	0.8 (10)	0.6 (11)
Finance, insurance & real estate ..	0.4 (16)	0.4 (13)	0.2 (17)	0.1 (25)	0.2 (21)	0.1 (31)	-- --	0.2 (18)
Services.....	0.6 (6)	0.4 (7)	0.4 (7)	0.5 (7)	0.2 (11)	0.3 (10)	0.3 (10)	0.3 (9)

Rates are incidents per 10,000 f/t workers. Percent relative standard errors appear in parentheses.

The rate of nonfatal workplace amputations trended downward over the period 1992-99.

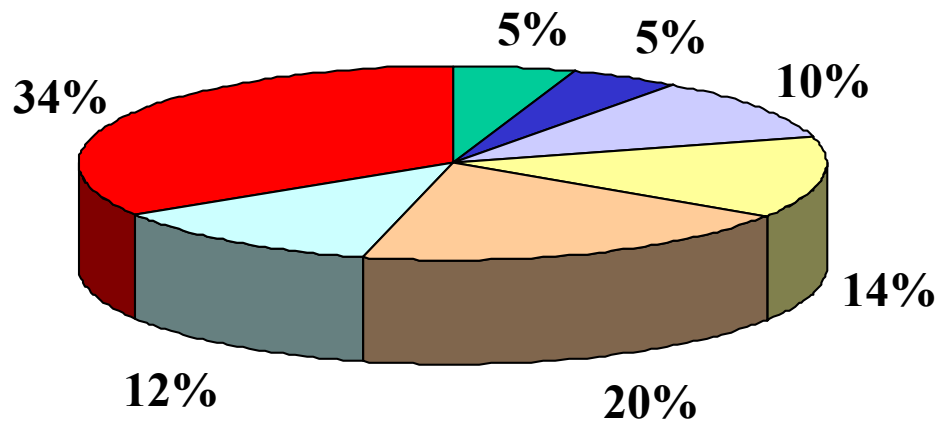


If the rate of workplace amputations has been on the decline, why should we be concerned about it?

More than 21 fatal and 11,000 nonfatal workplace amputations occurred on average each year over the period 1992-99.

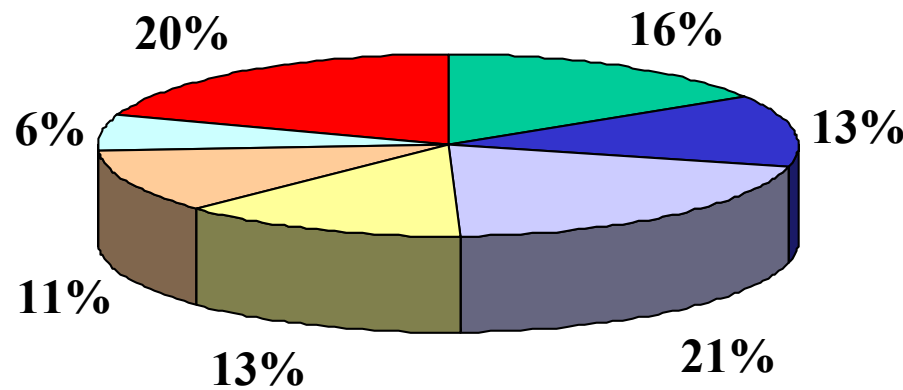
According to NCCI, during the period 1996-97, amputation injuries were the most costly worker claim by nature of injury, averaging \$18,120 per claim.

Of the 9,985 nonfatal workplace amputations in 1999, more than 1 in 3 cases required 31+ days away from work to recuperate



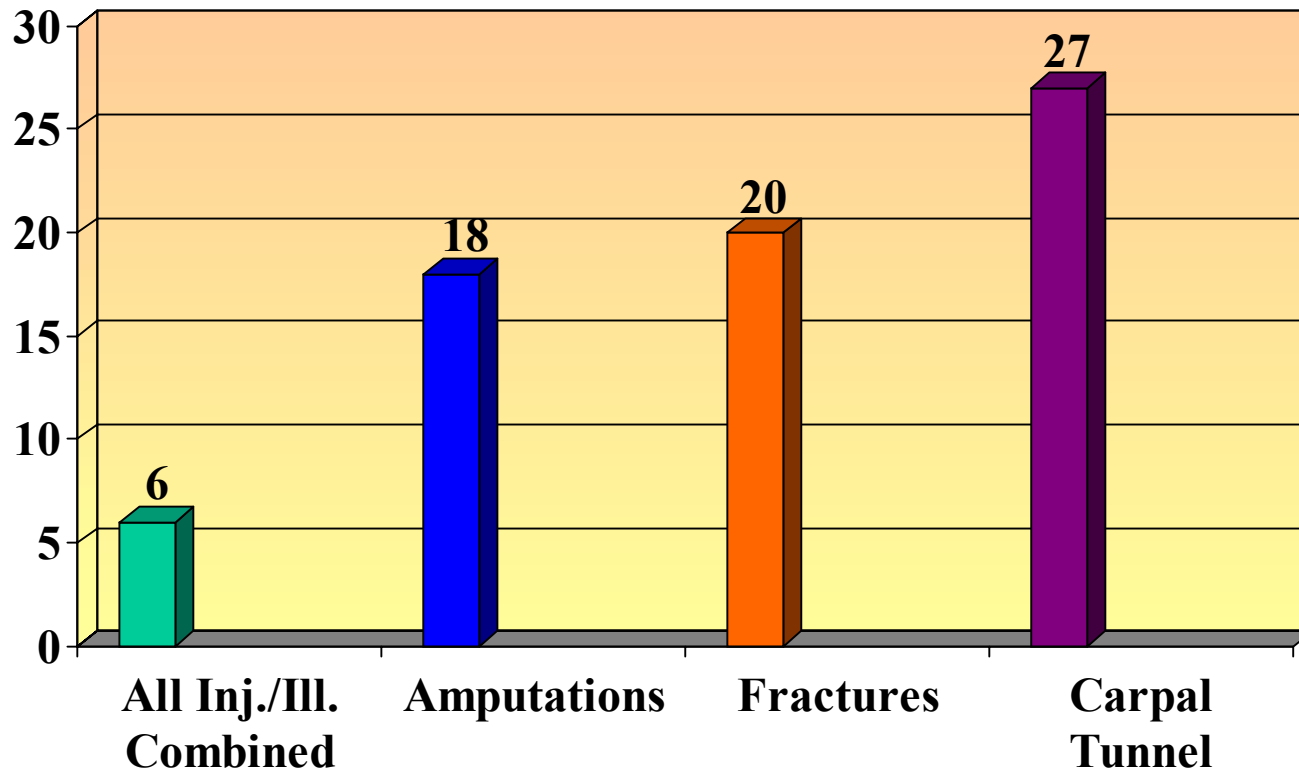
- Cases involving 1 day
- Cases involving 2 days
- Cases involving 3-5 days
- Cases involving 6-10 days
- Cases involving 11-20 days
- Cases involving 21-30 days
- Cases involving 31+ days

In contrast to nonfatal amputations, only 1 in 5 cases for all nonfatal injuries and illnesses combined in 1999 required 31+ DAFW



- Cases involving 1 day
- Cases involving 2 days
- Cases involving 3-5 days
- Cases involving 6-10 days
- Cases involving 11-20 days
- Cases involving 21-30 days
- Cases involving 31+ days

Only carpal tunnel syndrome and fractures required more days away from work than amputations.



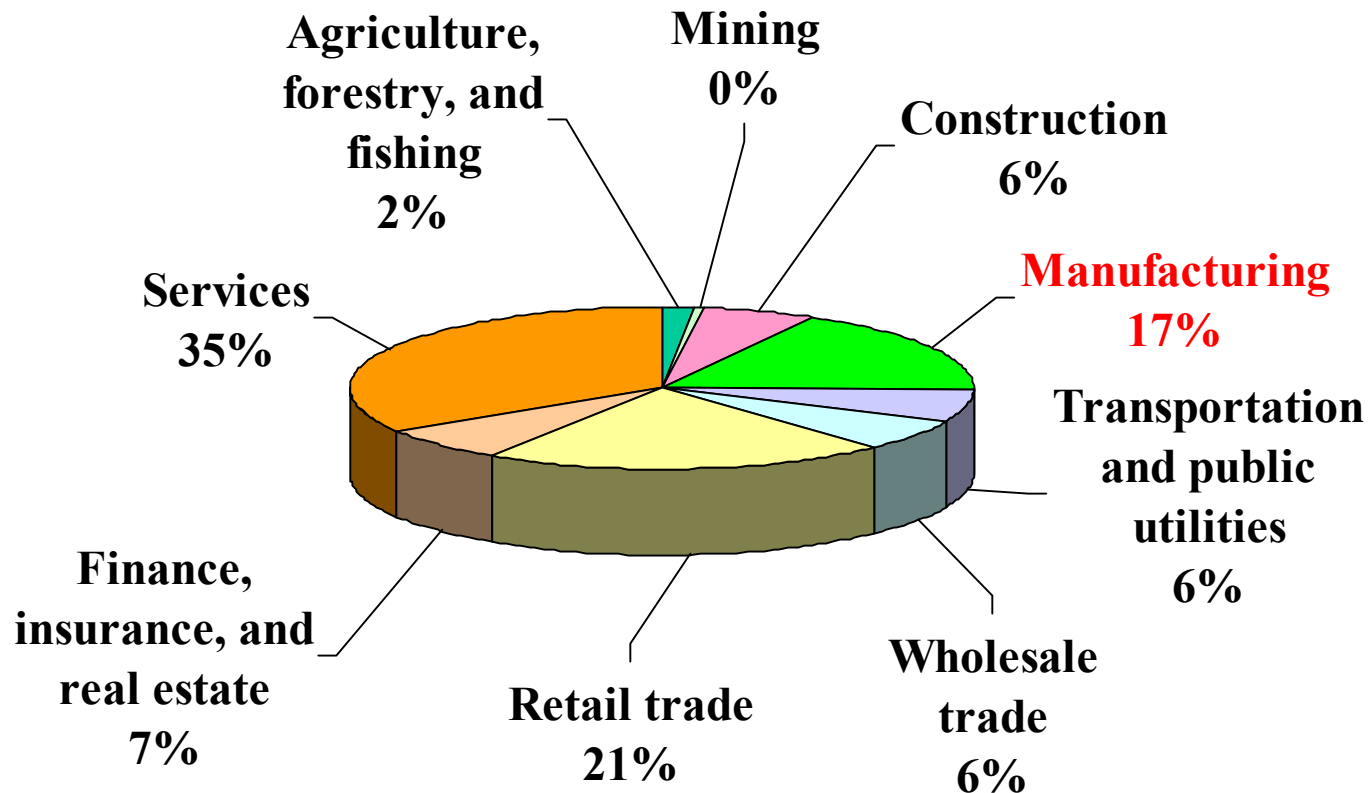
Median days away from work

During the period 1992-99, two-thirds of all fatal workplace amputations occurred in three MID's: TPU, Agriculture, and Manufacturing. In contrast, 53 percent of nonfatal amputations occurred in Manufacturing during the same period.

Between 1992-99, fatal amputations were distributed mostly among the agriculture, manufacturing, and TPU industries; whereas, the majority of nonfatal amputations occurred in manufacturing.

	1992	1993	1994	1995	1996	1997	1998	1999	Total
Fatal amputations.....	26	16	24	20	15	25	27	18	171
Agriculture.....	7	--	--	9	5	--	--	--	37
Mining	--	--	--	--	--	--	--	--	7
Construction	--	--	--	--	--	--	--	--	19
Manufacturing	5	6	7	--	--	8	--	--	36
Transportation and Public utilities.....	--	--	6	5	--	5	7	9	40
Trade.....	--	--	--	--	--	--	--	--	12
Finance, insurance, & real estate	--	--	--	--	--	--	--	--	--
Services.....	--	--	--	--	--	--	5	--	15
Nonfatal amputations..	12,352	11,342	12,222	11,309	10,167	10,852	10,243	9,985	88,472
Agriculture.....	652	271	376	278	272	344	291	264	2,748
Mining	175	189	204	129	98	245	119	90	1,249
Construction	1,063	1,133	1,035	1,224	1,216	1,178	923	1,358	9,130
Manufacturing	6,054	6,218	6,715	6,021	5,535	5,568	5,757	5,289	47,157
Transportation and Public utilities.....	520	411	552	621	375	568	504	550	4,101
Trade									
Wholesale trade	945	895	1,088	983	919	825	595	508	6,758
Retail trade.....	1,342	1,075	1,180	951	1,071	1,394	1,349	941	9,303
Finance, insurance, & real estate	228	260	106	54	91	55	--	161	955 ¹
Services.....	1,375	891	966	1,046	591	677	696	824	7,066

In 1999, Manufacturing accounted for 17 percent of total employment, while more nonfatal amputations occurred in Manufacturing than in all other industries combined.



Employment distribution by MID

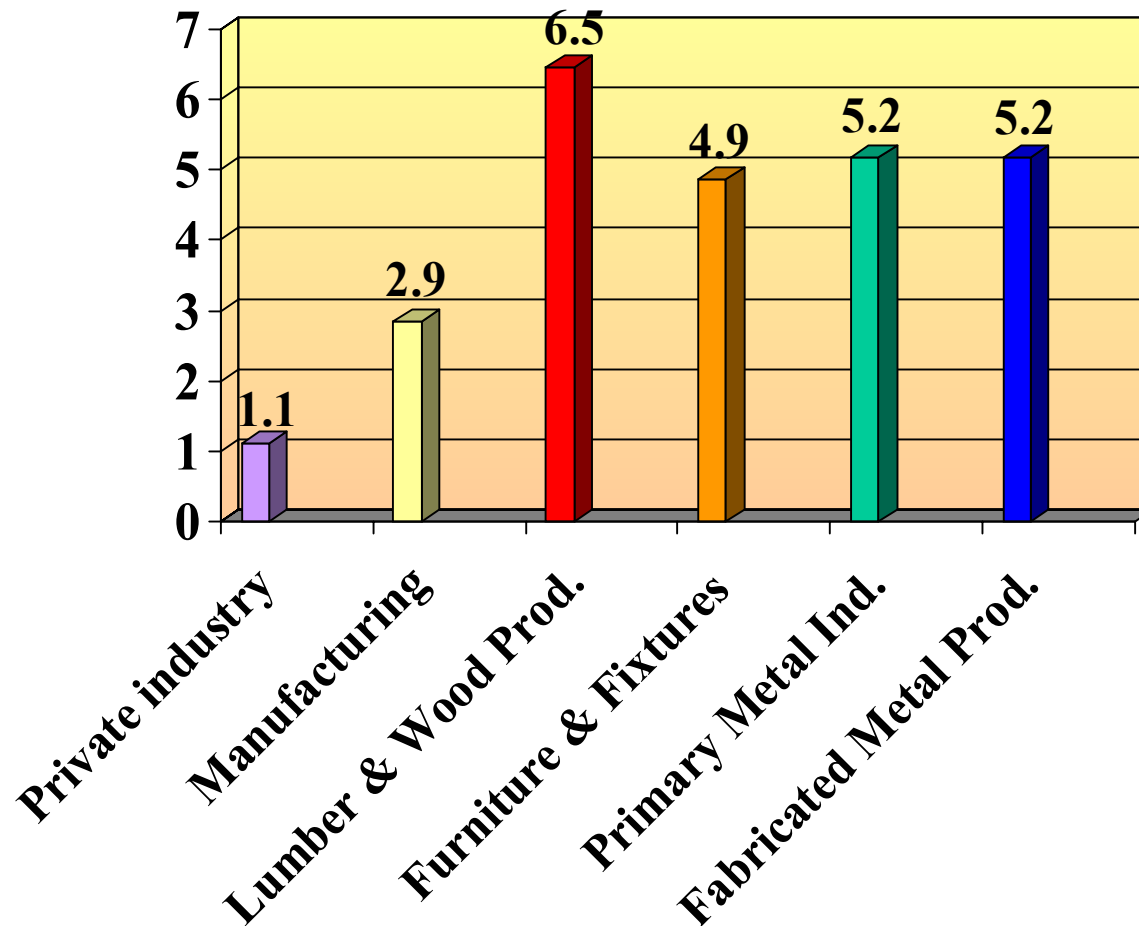
In addition to accounting for the majority of nonfatal workplace amputations, the rate of amputations in Manufacturing is generally among the highest of all industries.

The rate of nonfatal workplace amputations in manufacturing and selected manufacturing industries far exceeded the national average between 1992-99

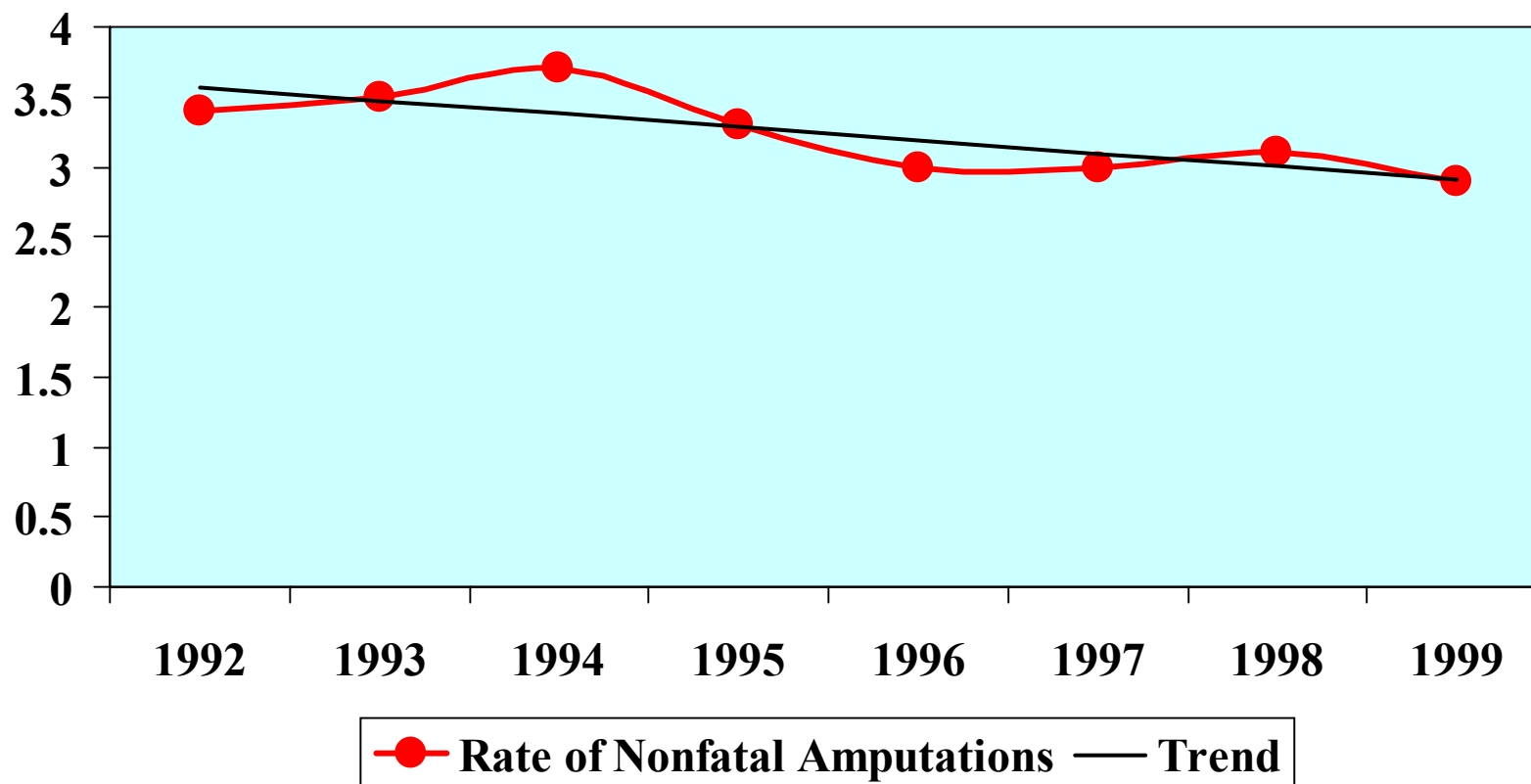
	1992	1993	1994	1995	1996	1997	1998	1999
Private Industry.....	1.6 (2)	1.4 (2)	1.5 (2)	1.4 (2)	1.2 (2)	1.3 (2)	1.2 (2)	1.1 (2)
Manufacturing.....	3.4 (2)	3.5 (2)	3.7 (2)	3.3 (2)	3.0 (2)	3.0 (3)	3.1 (3)	2.9 (3)
Lumber & wood products	9.1 (5)	8.2 (5)	10.5 (7)	7.0 (9)	6.7 (10)	7.6 (11)	7.4 (10)	6.5 (11)
Furniture & fixtures	5.2 (9)	6.3 (7)	7.3 (9)	6.4 (9)	5.8 (11)	4.1 (15)	6.2 (11)	4.9 (11)
Primary metal industries	4.5 (8)	5.9 (6)	4.8 (9)	4.7 (9)	4.9 (9)	4.2 (12)	5.2 (10)	5.2 (10)
Fabricated metal products	5.6 (5)	6.7 (4)	6.4 (7)	5.4 (7)	5.4 (7)	6.6 (8)	6.2 (8)	5.2 (9)

Rates are incidents per 10,000 f/t workers. Percent relative standard errors appear in parentheses.

Rates of nonfatal amputation in manufacturing and select manufacturing industries far exceeded the national average in 1999



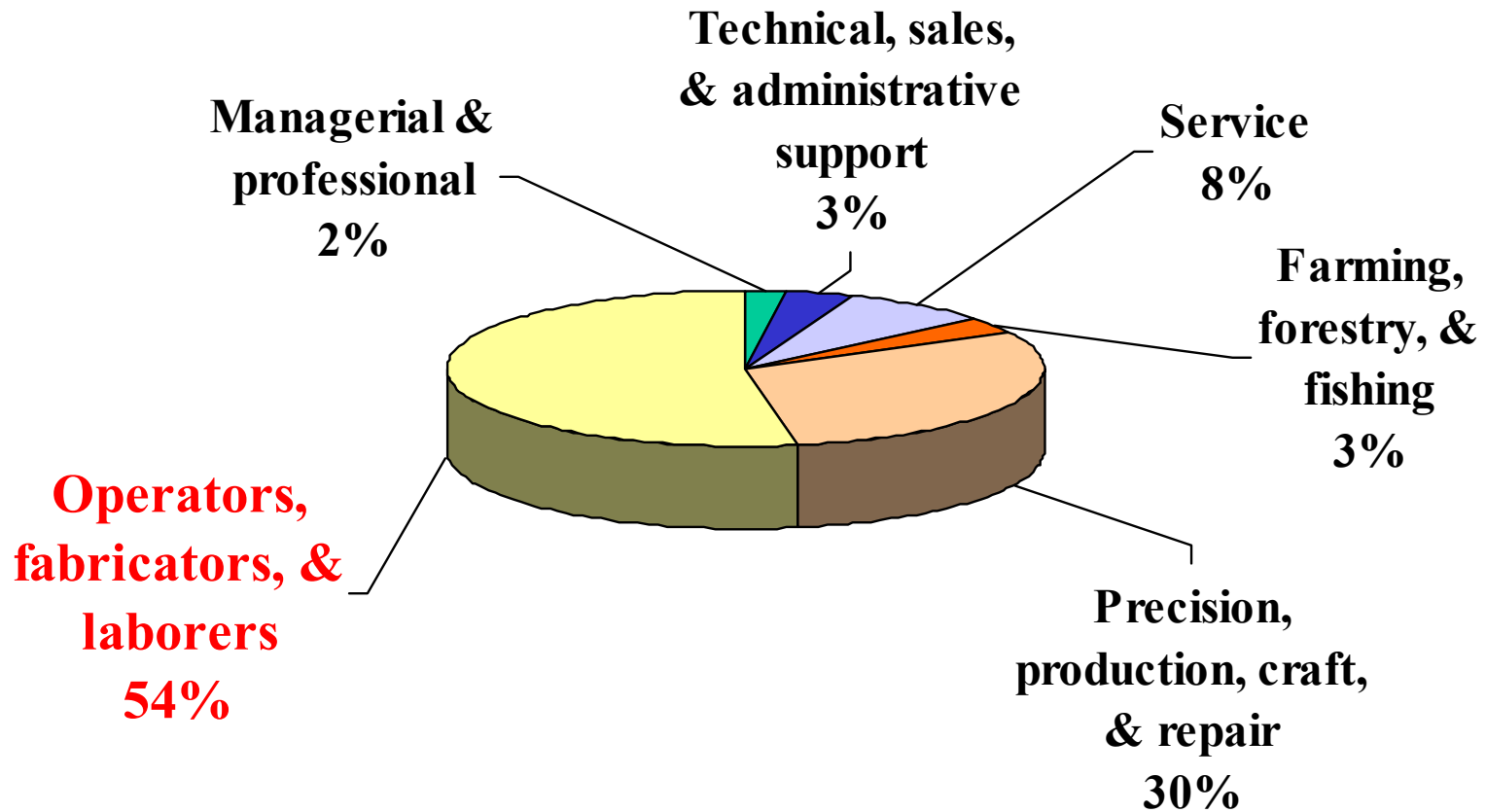
Similar to the rate for all industries combined, the rate of nonfatal workplace amputations in Manufacturing trended downward from 1992-99.



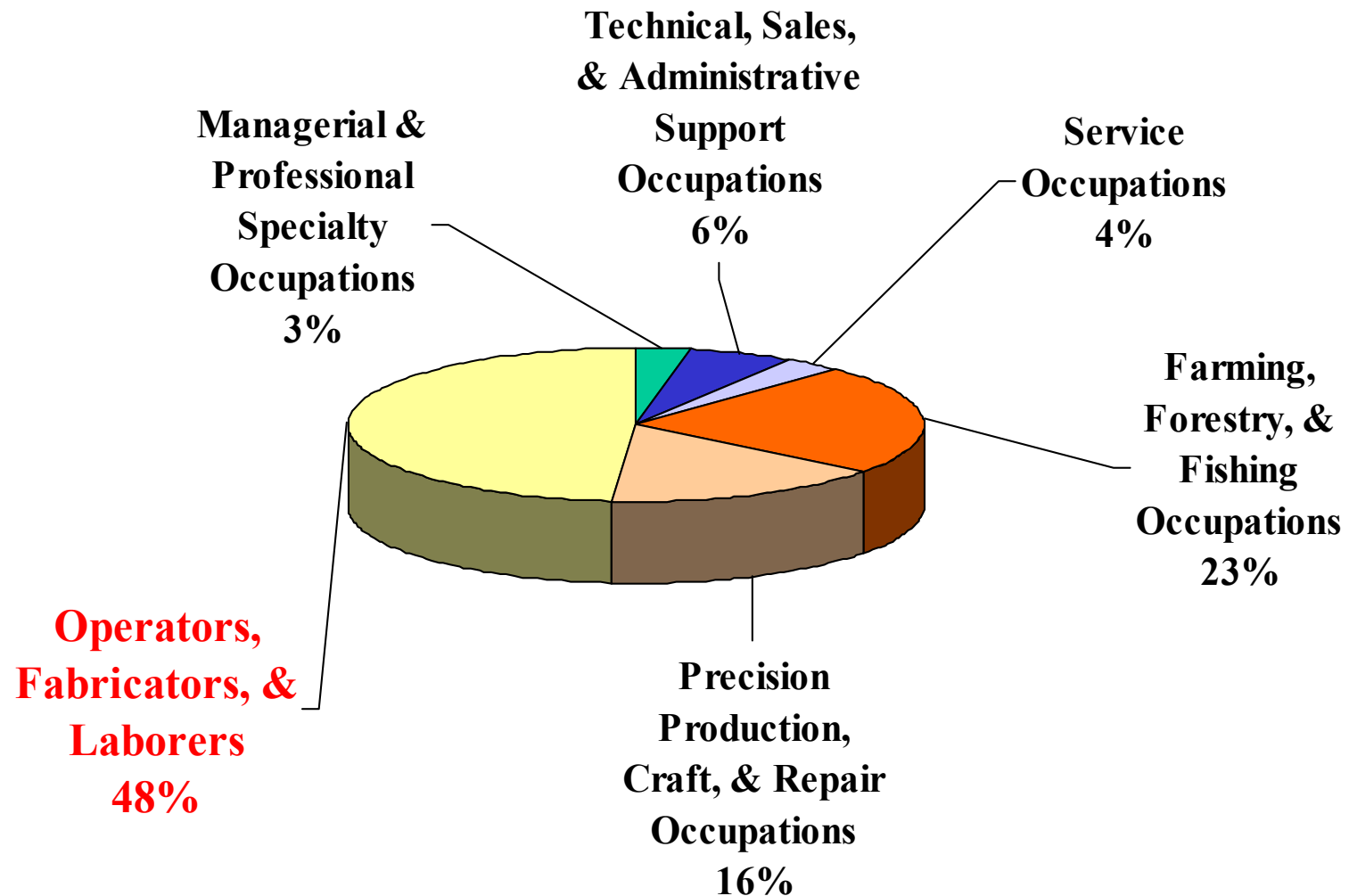
Operators, fabricators & laborers accounted for the majority of nonfatal workplace amputations during the period 1992-99.

	1992	1993	1994	1995	1996	1997	1998	1999	Total
Nonfatal amputations	12,352	11,432	12,222	11,309	10,167	10,852	10,243	9,985	88,472
Managerial and professional	239	271	314	289	158	255	299	231	2,056
Technical, sales, administrative support	775	771	482	290	615	560	325	335	4,153
Service	627	771	872	557	434	740	967	809	5,777
Farming, forestry, and fishing.....	721	282	503	334	548	280	282	332	3,282
Precision, production, craft, and repair	3,697	2,910	2,896	3,101	2,671	2,463	2,502	2,971	23,211
Operators, fabricators, and laborers	6,209	6,309	7,089	6,666	5,660	6,483	5,849	5,250	49,515

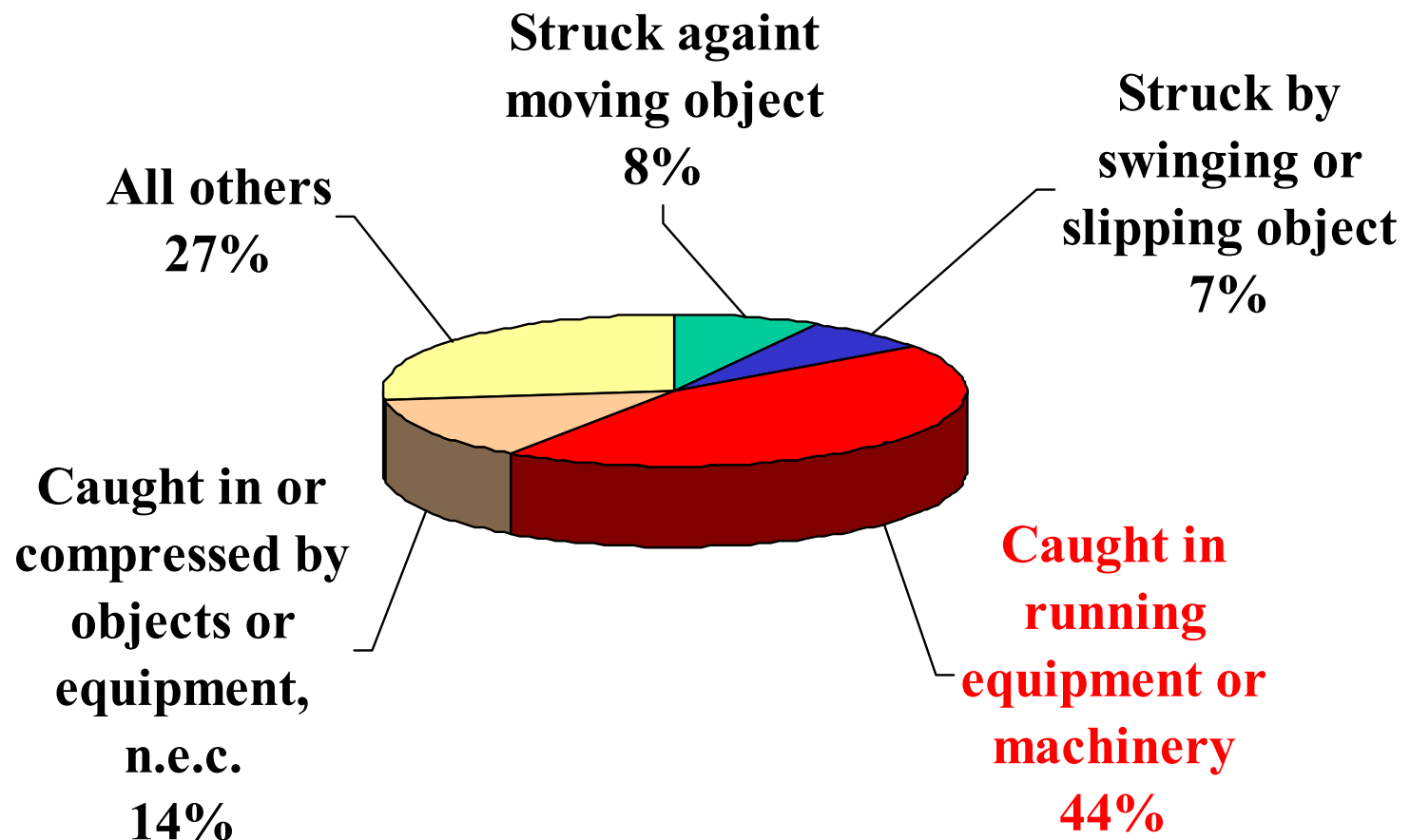
Operators, fabricators & laborers accounted for the majority of nonfatal amputations in 1999



Similar to nonfatal amputations, operators, fabricators & laborers accounted for the most fatal amputations during the period 1992-99



More nonfatal workplace amputations resulted from workers being caught in running equipment than by any other event in 1999



Motorized highway vehicles was the most common source of fatal amputations over the period 1992-99, accounting for one-fifth of such cases. In contrast, metal, woodworking, and special material machinery was the most common source of nonfatal amputations during the same period.

The distribution of nonfatal amputations was consistent with the distribution of employment among worker age groups; whereas, fatal amputations behaved much differently.

Age of workers	Percentage of workers ¹	Percentage of fatal amputations	Percentage of nonfatal amputations
Less than 25	18	6	15
25-44	51	46	52
45-64	29	35	31
65 and over	3	13	2

¹ Percentages based on 1999 CPS data of private wage and salary workers, age 16 years and older.